

PART 1 - GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 814 (1997) Fire Tests of Through-Penetration Fire Stops

FACTORY MUTUAL ENGINEERING AND RESEARCH CORPORATION (FM)

FM P7825 (1999) Approval Guide

UNDERWRITERS LABORATORIES INC. (UL)

UL FRD (1998) Fire Resistance Directory

UL 723 (1996) Surface Burning Characteristics of Building Materials

UL 1479 (1994; R 1998) Fire Tests of Through-Penetration Firestops

UL 2079 (1998) Tests for Fire Resistance of Building Joint Systems

1.2 SUBMITTALS

Submit the following in accordance with Section 01330 entitled "Submittal Procedures."

Through-penetration firestopping systems or designs shall be the types tested in accordance with ASTM E 814, UL 1479, or UL 2079 and listed by UL FRD or approved by FM P7825. Submittals shall show the construction compliance in accordance with UL FRD or FM P7825 for the specific wall or floor assembly being penetrated and firestopping protected.

1.2.1 SD-03, Product Data

a. Firestopping

Include composition and performance characteristics; include UL system number and drawing for each design condition where product will be used.

1.2.2 SD-06, Test Reports

a. Firestopping

1.2.3 SD-08, Manufacturer's Instructions

a. Firestopping

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver materials in original unopened packages or containers showing name of manufacturer and brand name. Store materials off the ground and protect from damage and exposure to elements. Remove damaged and deteriorated materials from the site.

1.4 COORDINATION

Coordinate the work with other trades. Apply firestopping materials at penetrations of pipes and ducts, prior to insulating, unless insulation meets requirements specified for firestopping. Apply firestopping materials at building joints prior to completion of enclosing walls or assemblies.

PART 2 - PRODUCTS

2.1 FIRESTOPPING

Provide asbestos-free firestopping material capable of maintaining an effective barrier against flame, gases, and temperature. Provide noncombustible firestopping that is nontoxic to human beings during installation or during fire conditions. Devices and equipment for firestopping service shall be UL FRD listed or FM P7825 approved for use with applicable construction, and penetrating items.

2.1.1 Fire Hazard Classification

Material shall have a flame spread of 25 or less, a smoke developed rating of 50 or less when tested in accordance with UL 723.

2.1.2 Firestopping Rating

Firestopping materials shall be UL FRD listed or FM P7825 approved for "F" and "T" ratings at least equal to fire-rating of fire wall or floor in which penetrated openings are to be protected, except that "F" and "T" ratings may be 3 hours for firestopping in through-penetrations of 4-hour fire rated wall or floor.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

Prior to application, remove from surfaces all dirt, grease, oil, loose materials, rust, or other substances that may affect proper fitting or required fire resistance of firestopping materials. Prepare surface as recommended by manufacturer.

3.2 INSTALLATION

Install firestopping assembly at locations shown and as specified in accordance with UL FRD systems or FM P7825 designs, and as recommended by manufacturer.

3.2.1 Firestopping Construction Joints

Completely fill openings at construction joints with firestopping material to prevent spread of fire in the following locations:

- a. Floor-to-Floor Joints
- b. Wall-to-Wall Joints

- c. Floor-to-Wall Joints
- d. Head-of-Wall Joints

3.2.2 Firestopping Locations

Completely fill openings around penetrating items with firestopping material to prevent spread of fire in the following locations:

- a. Around duct, cable, conduit, piping, and their supports that penetrate fire-rated above grade floor slabs, interior partitions, and exterior walls.
- b. Around openings and penetrations through fire-rated ceiling assemblies.
- c. Around penetration of vertical fire-rated service shafts.
- d. Around openings and penetrations through fire-rated enclosures.
- e. Other locations indicated.

3.2.3 Filling of Voids

Completely fill voids flush with the surface; the depth of material shall be in accordance with UL FRD or FM P7825. Firestopping for filling voids in floors in which smallest dimension of a void is 4 inches or more shall support the floor design load or be protected by a permanent barrier. Damaged, disrupted, or removed firestopings shall be replaced with new firestopings as specified in this section.

3.2.4 Insulated Pipes and Ducts

Cut and remove thermal insulation where pipes or ducts pass through firestopings. Replace thermal insulation with a material having equal thermal insulating characteristics and equal firestopping characteristics.

3.2.5 Fire Dampers

Provide fire dampers in ducts and penetrations of fire-rated construction in accordance with the requirements of Section 15810, "Ductwork and Ductwork Accessories."

3.2.6 Wall and Floor Penetration by Plastic Drain, Waste, and Vent Pipes

A 2 hour fire resistive chase enclosure is maintained by encasing the pipe in an 18 inch steel sleeve and penetrating the chase at a 45 degree downward angle. Chases shall be firestopped at each floor.

3.3 FIELD QUALITY CONTROL

Do not cover or enclose firestopped areas until approved by the Contracting Officer.

END OF SECTION